

Population Growth and Sanitation Facilities: A Case Study of Panpur-Keutia Gram Panchayat, Barrackpore Cd Block-I, North 24 Parganas, West Bengal

Dr Rimi Roy

Assistant Professor, Department of Geography, Vivekananda College, Madhyamgram, West Bengal

ABSTRACT:

The aim of rural development actions are to further develop of social and economic activities of rural communities. Gram Panchayats are at the lowest level of Panchayati Raj Institution (PRIs), whose legal authority is the 73rd constitutional amendment of 1993, which is concerned with rural local governments. Sanitation systems aim to protect human health by providing a clean environment that will stop transmission of diseases, For example, Diarrhea, a main cause of malnutrition and stunted growth and in children, the recent Corona virus disaster brings to the fore importance of sanitation and hygiene. Over the last two decades several initiatives have been taken by the state and central government to realize such development. However, resource constraints, inadequate facilitation and limitations of capacity have slowed down the pace of decentralization. This study reflects the population growth and sanitation facilities in Keutia, Abhirampur, Mukundapur and Rambati villages of Panpur-Keutia Gram Panchayat from the survey which was carried out according to 1991, 2001 and 2011 census data. The population of these villages had a great increase in a short time changing its demographic pattern and sanitation facilities given by the state and central government both and those facilities are also increasing the development of those rural area.

KEY WORDS: *Decentralization, Demographic pattern, Rural Development, Panchayati Raj*

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I. INTRODUCTION

Rural Development is the process of improving the quality of life and economic well-being in rural areas, often relatively, isolated or sparsely populated areas. Rural Development has traditionally centered on the exploitation of land-intensive natural resources (such as – agriculture and forestry). However, changes in global production network and increased urbanization have changed the character of rural areas. So, a case study can be also helpful to understand, the geographical factors which creates dissimilarities, in Micro-Level-Planning. Government agencies have typically built sanitation infrastructure, but sanitation professionals are now concentrating on helping people to improve their own sanitation to change their behavior. According to the study, four villages (Keutia, Abhirampur, Mukundapur and Rambati) of North 24 PGS, Barrackpore CD Block-1 were suffering from an unimproved sanitation system. Then, the Local, State and Central government give them those facilities which are not they got before 2015. Some people are made their own toilets for a safe sanitation, but, those people who have not enough money to make their own toilets, they were suffered too much. After launching many planning and development plans, local government decided to give facilities for lower income people by making their toilets and provide a good health for them.

The main objectives of the study was as follows-

- To analysis the sanitation facilities in the past and present situations.
- To show those facilities which are given to people from Government and Gram Panchayat.
- To analyze the relationship between population growth sanitation facilities.
- To identify the effect of COVID19 situation on sanitation facilities.

II. METHODOLOGY AND DATA

The present work is based on sufficient data, information and maps which have been collected from different authorities' or generated by the researcher from different sources and surveys.

In order to make a systemic analyzed of the study area of four villages of Barrackpore CD Block-I and its surroundings. They are divided into three steps-

Secondary data collection: The pre-field study indicates about the collection of secondary data. Two data are collected for this study, Primary and Secondary data. The Secondary data are collected at first from the district

Census Hand book and Primary Census Abstract of 1991-2011. Data are also collected from Journals, Articles and the details on various schemes were collected from government websites for data analysis and literature review. Few data are collected from the Gram Panchayat Office and the BDO Office.

Primary data collection: For the collection of Primary data, a schedule survey was conducted for the four selected villages. 25 households were chosen from each of four villages, which is a total of 100 samples. The data for the study were collected by personally visiting and interviewing all the respondents on the structured schedule. Information gathered by further observations and verified by cross questioning. All possible care was taken regarding appropriate, reliable and valid information being noted down in the schedule. Personal observations were recorded, additional and specific information noted down.

Mapping and tabulation: For the Post-Field Study, Master tables were prepared from the data collected in the schedule from the respondents. Percentages were collected from different charts (Like- Bar, Pie, Line graph, Histogram) was created from the data. The base maps for the consecutive study area were collected from the Panchayat Office which was further digitized using GIS Software (Q-GIS, ARC Map). Land use and Land Cover map were also created by the software. Photographs of the study area were all collected personally by respondent.

III. LITERATURE REVIEW

J. PEARSON et. al. (Jan, 2008) explained in their theory “ A Literature Review of the Non-health Impacts of sanitation”, that health issues are important mostly for a bad sanitation, but another hand, other factors are also important. Social impacts of bad sanitation on women, adult and teenage girls, children, disabled and environment are those other factors. The improvement of all factors can give secure and healthy sanitary issues to women, girls and school students also.

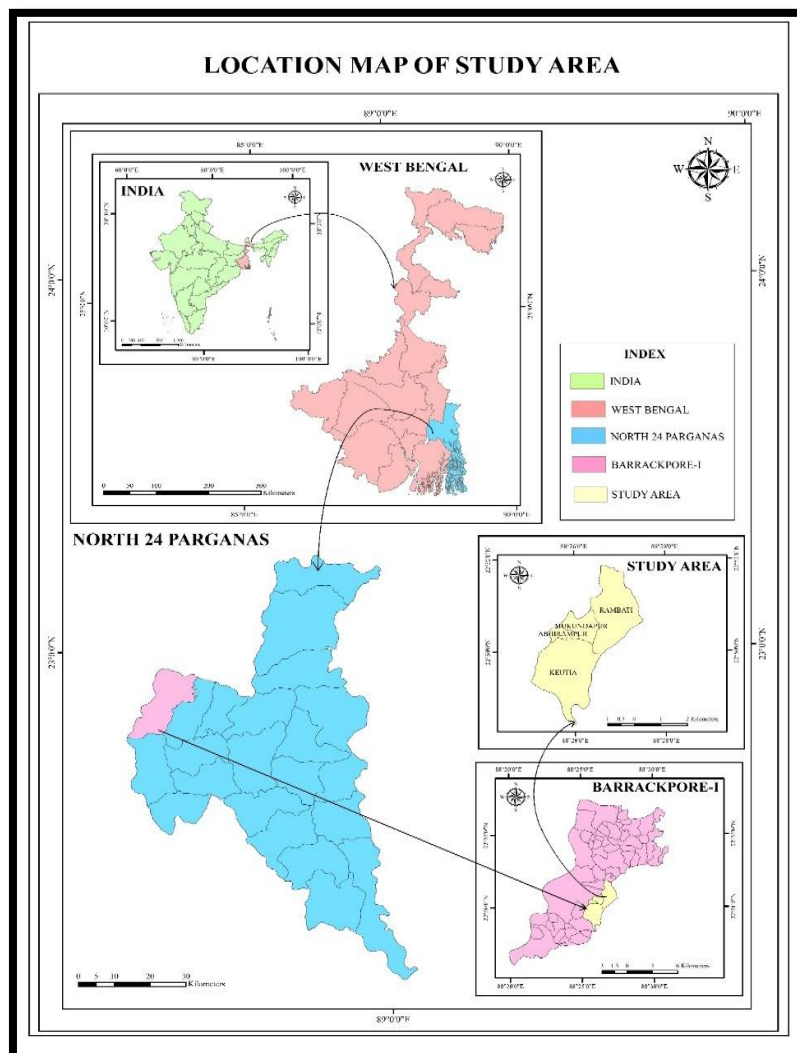
The United National General Assembly (2008) focused on the progress of basic sanitation towards the MDG (Millennium Development Goal) Target. According to their study, only improved sanitation can reduce the economical problem, health problem, environmental pollution, inconvenience and indignity. Developed regions use improved sanitation facilities which are flush toilets, improved pit latrines with slab, composting Toilets. 1.8 billion People do not use an improved sanitation facility in Asia.

D. mara et. al. (2010, November, 16th) has stated that in their article “Sanitation and Health” that, sanitation and health are inter-related to each other. A bad sanitary system is caused many harmful diseases for children, especially for maternal women and for all people too. Mainly, Diarrhea has a leading role for all the deaths of children under five year age groups. Respiratory infections are caused by poor sanitation malnutrition is also happened by it. In recent days, government and many agencies work on sanitary system and they organize many programs to improve People’s own toilets, their health and hygiene. Improvement of sanitation is very important for women or, girls because, they generally use public toilets which are not safe for every time or, their menstruation period.

G. S. Kumar et. al. (2011, September, 15th) discussed in their paper “Health and Environment Sanitation in India: Issues for Prioritizing Control strategies” that, Environmental sanitation is an important term in public health issues in India. They explained the appropriate cost-effective intervention strategies for sanitation control according to Indian context. According to their study, greater household involvement, NGO’s and local groups, public private participation, policies and political commitment can help to bring a big change for the development of good sanitation system.

IV. DISCUSSION

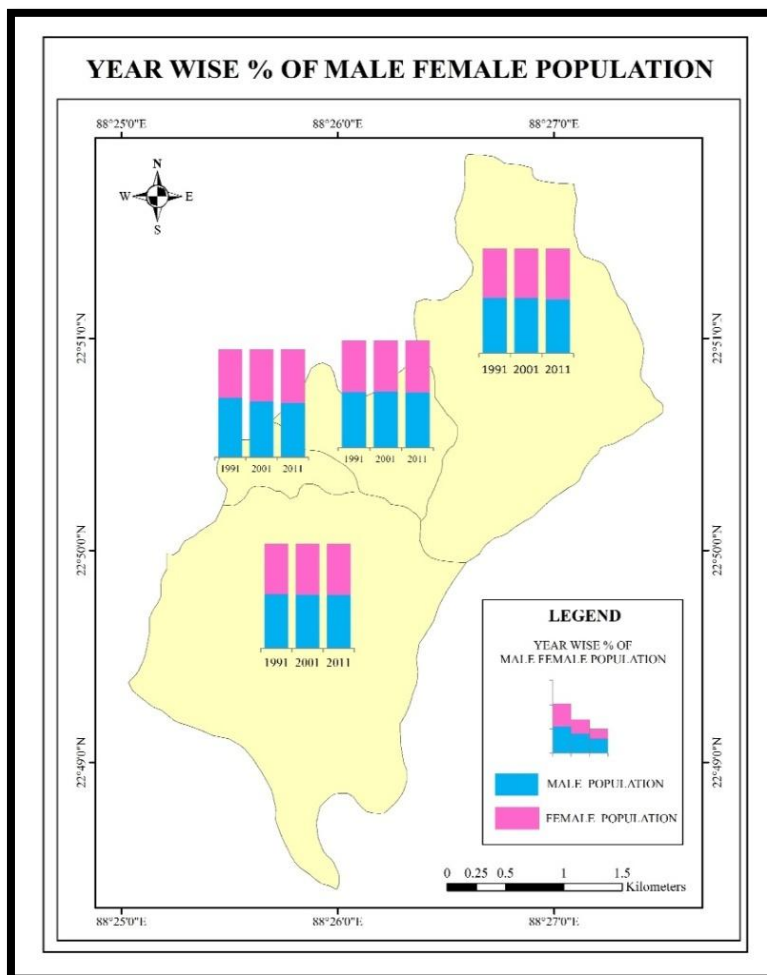
The selected four villages (Keutia, Abhirampur, Mukundapur and Rambati) are situated at Panpur-Keutia Gram Panchayat in Barrackpore CD Block-I, Barrackpore Sub-division, North 24 Parganas, West Bengal. It is located 18 km towards North from District headquarters Barasat, 15 km from Barrackpore-I, and 38 km from State capital Kolkata. Panpur-Keutia Gram Panchayat is a part of Kolkata Urban Agglomeration. It is surrounded by Amdanga Block towards East, Barrackpore-I Block towards South, Chinsurah-Magrah Block towards North, Barasat-I Block towards South and Bhatpara, Naihati, Chandannagar, Chinsura are the nearby cities to Panpur-Keutia.



Map-1: Location of the study area, source: QGIS software

POPULATION DENSITY AND POPULATION GROWTH

Population density is the number of people per unit of area, usually quoted per square mile or square kilometer. It is frequently applied to living organisms, and most of the time to humans. In simple terms, population density refers to the number of living in an area per kilometer square. Population growth is the increase in the number of individuals in a population. The total population of 216 households are 989 in Abhirampur, 1111 households are 4939 in Keutia, 543 households are 2453 in Mukundapur and 1095 households are 4919 in Rambati village according to 2011 Census data.



Map-2: Population of the village, Source: Census of India

This diagram represents total male and female population of three years (1991, 2001 and 2011) of four villages (Keutia, Abhirampur, Mukundapur and Rambati) in Panpur-Keutia Gram Panchayat. In the year of 1991, male population is very high and female population is low than other two years. Because of migration of people, the male population became low, but, female population became high than other two years. Male population growth rate is always high than female population rate.

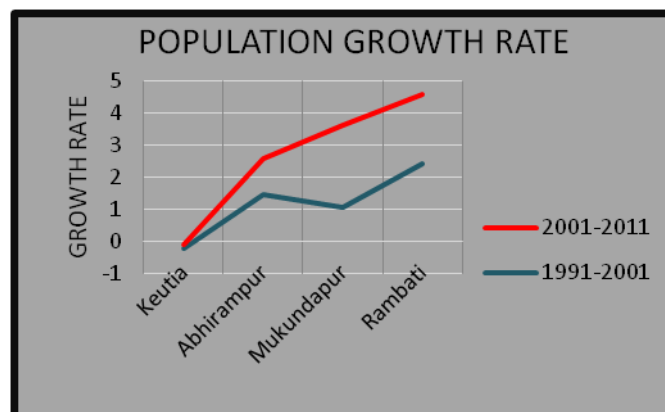
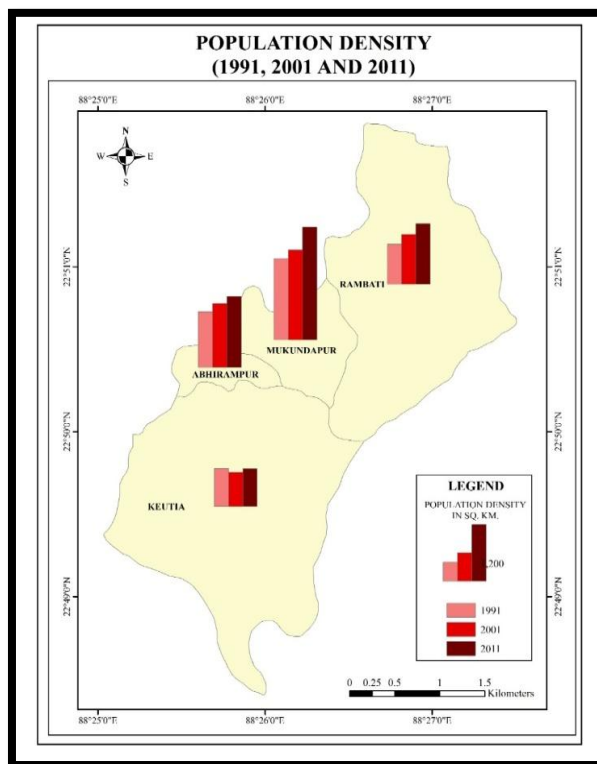


Fig-1: Population Growth rate, Source: Census of India

This diagram represents the population growth rate of 1991 to 2001 and 2001 to 2011 of four villages (Keutia, Abhirampur, Mukundapur, Rambati) in Panpur-Keutia Gram Panchayat. In Keutia village (1991 to 2001) the growth rate is -0.2147, but, in Rambati village, growth rate is high. In Mukundapur village (2001 to 2011) the growth rate is 2.5408, it is maximum highest growth rate than others.



Map-3: Population Density, Source: Census of India

This diagram represents the density of population in the year of 1991, 2001 and 2011. In Mukundpur, Rambati and Abhirampur village, the density of population is highest in 2011. In the year of 2001, the density of population rate is moderate. But in 1991, the density of population is lowest in every village except Keutia.

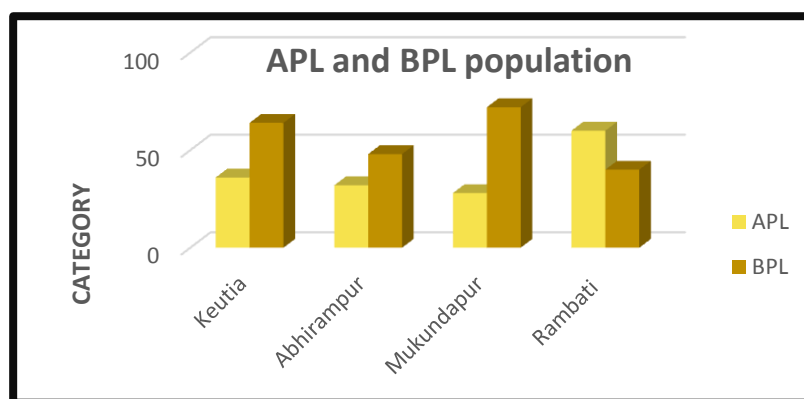


Fig-2: APL and BPL population Source: Primary survey

This diagram represents that, the percentage of category (like APL, BPL) of those who are lived in these four villages. Category is very important for those who got government facilities for sanitation. The percentage of BPL category is very high in these three (Keutia, Abhirampur, Mukundapur) villages than APL category. Only Rambati village is high in the percentage of APL category. There is 70% of APL in Rambati, 36% in Keutia, 40% in Abhirampur, 10% in Mukundapur. And there is 90% of BPL in Mukundapur, 64% in Keutia, 60% in Abhirampur and 30% in Rambati.

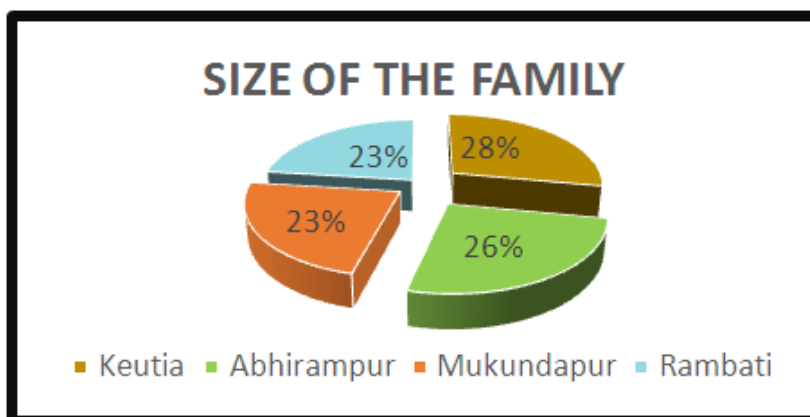


Fig-3: Family size, Source: Primary survey

This diagram represents that, the percentage of size of the family (like as – Nucleated, Medium and Large) of those who are lived in these four villages. In Keutia village, large families are mostly lived. 26% of the families are lived in Abhirampur village. The percentage of large families is low in Mukundapur and Rambati village.

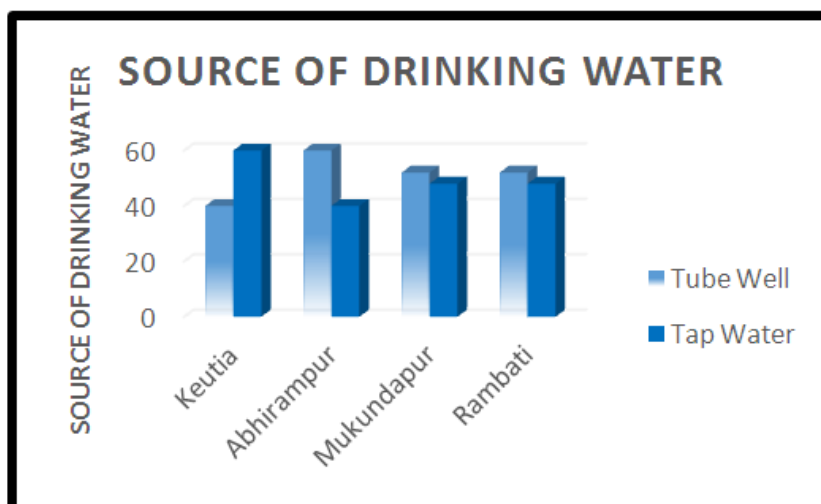


Fig-4: Source of drinking water, Source: Primary survey

This diagram represents that, the percentage of drinking water (like as- Tube Well, Tap water) in these four villages. In this diagram, it is shown that, tap water is mostly used in all villages for drinking water. 60% of the people use tap water for drinking either filtered or un-filtered. Tube Well water is also used for their drinking, for health issue tap water is not often used. But in Abhirampur village, 60% of people use tube well water for drinking.

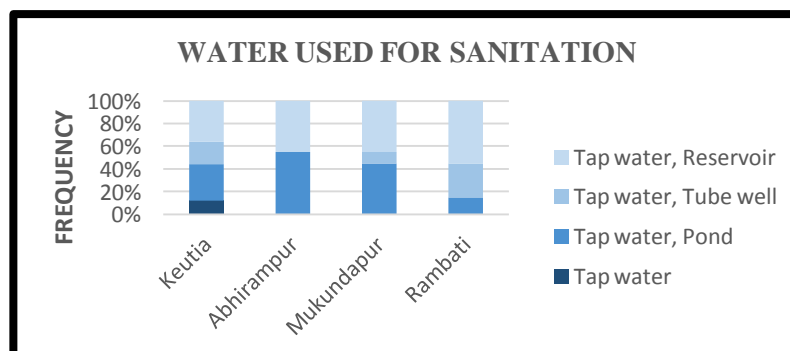


Fig-5: Water use for sanitation, Source: Primary survey

This diagram represents that, people of the four villages use tap water, tube well water and water of pond or their own reservoir for sanitation. Only tap water is used for sanitation in some households in Keutia village. Both tap water and pond's water are used mostly in Abhirampur and Mukundapur village. People who have own reservoir, they use their reservoir's water for sanitation (36% in Keutia, 45% in Abhirampur and Mukundapur and 55% in Rambati).

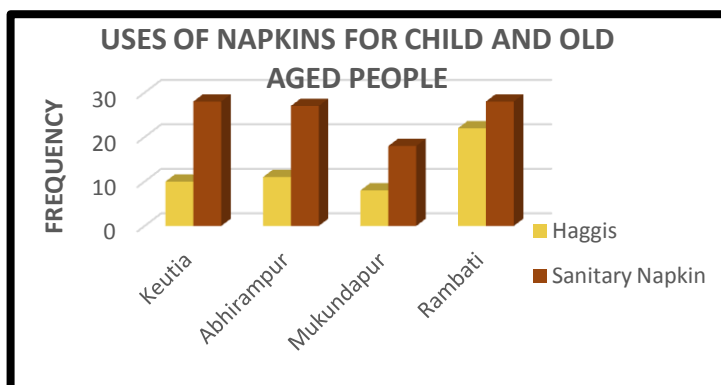


Fig-6: Use of napkins, Source: Primary survey

This diagram represents that, children and old-aged people who used napkins in these four villages mentioned above. The number of children is less who uses haggis in those villages. But, many old-aged people are there, who are dependent in their family members, they use haggis also. 22% in Rambati, 11% in Abhirampur, 10% in Keutia and 8% in Mukundapur are used haggis. School students or adult women are also use sanitary napkins. 28% in Rambati and Keutia, 27% in Abhirampur, 18% in Mukundapur are used sanitary napkins.

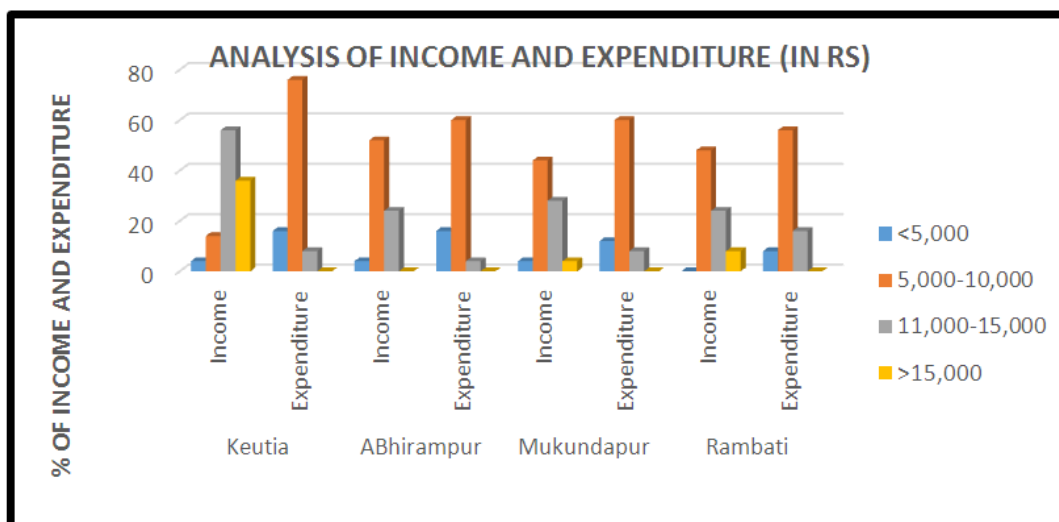


Fig-7: Income and expenditure of the population, Source: Primary survey

This diagram represents that, the variation of economical status among the people who live in Panpur-Keutia gram panchayat. The people are lived in these four villages whose income is 5,000-10,000; their expenditure rate is also high. 15,000 income groups are high in Keutia village and 10,000-15,000 income and expenditure group is moderate in all villages. The poverty rate is high in Abhirampur village because of most of the people's income of this village is less than 5,000.

SANITATION FACILITIES AND GOVERNMENT PROGRAMMES

The Local, State and central government provides many planning and programs for drinking water facilities, solid waste management and sanitation. That are-

1. Providing **safe drinking water** to the villagers and creating a healthy environment in the entire Gram Panchayat. There are drinking water tanks owned by Panchayat. These tanks are containing drinking water are provide on demand in case of any emergent situation.

For example, 'Sajaldhara' is a scheme which is running in present day.

2. The Gram Panchayat now collects Solid Wastes from households regularly and dispose of in an environment friendly way. The villagers pay Rs. 10/- only per month per house to get this service.
3. The Local and State Govt. provide some schemes to rural people to improve their quality of sanitation. The programmes are undertaken by Govt. of India to improve Rural Sanitation-

SL. NO.	SANITATION PROGRAMMES
1.	Central Rural Sanitation Programme (Total Sanitation Campaign) (CRSP)
2.	Rural Sanitation Marts and Production Centers
3.	Construction of Individual Household Latrines
4.	Women Sanitary Complex
5.	School Sanitation

Table-1: Sanitation Programmes, Source: Village GP

4. Swachha Bharat Abhiyan (SBA) or, Swachh Bharat Mission is nation-wide campaign in India for the period 2014-2019 that aims to clean up the streets, roads and infrastructure of Indian cities and rural areas. The campaign was officially launched on 2nd October, 2014 at Rajghat, 'New Delhi by Prime Minister Narendra Modi. It is India's largest cleanliness drive to date with three million govt. employees and students (Participating 4,043) from all parts India.

5. **Jal Jeevan Mission**, is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India. This Mission was launched on August 15, 2019.

6. There are 10.61 Lakh ASHAs across the country in rural and urban areas under the NHM. The Union Cabinet has approved increase in amount of routine and recurring incentives under National Health Mission for ASHAs that will now enable ASHAs to get at least Rs. 2000/- per month against 1000/- earlier.

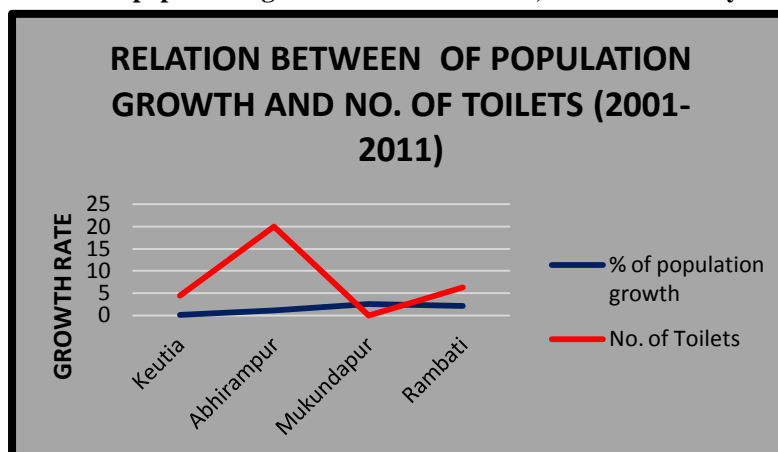
7. NHM has attempted to fill the gaps in human resources by providing nearly 2.65 Lakh additional health human resources to the states including 11,921 GDMOs, 3,789 specialists, 73,619 staff Nurses, 81978 ANMs, 44314 paramedics, 460 public Health Managers and 17,222 programme Management staffs appointed on contractual basis and also providing financial support.

V. RELATION BETWEEN POPULATION GROWTH AND SANITATION FACILITIES

The population growth and sanitation facilities are inter-related to each other in various perspectives. There is a relationship between them. As secondary data source, 1991, 2001 and 2011 Census Data are collected for showing the growth of population of three years. This growth shows that, how population grows in between 1991 to 2001 and 2001 to 2011. The study also explained about those people who have improved sanitation system or, the number of toilets in each family, during 1991 to 2001 and 2001 to 2011.

According to 2001 to 2011, the percentage of population growth is very low, that is 0.1271 and the percentages of number of toilets were 4.4 in Keutia. In Abhirampur village, the population growth is 1.1, which is less than 1991 to 2001, but the number of toilets grew in high rates, because, there was few toilets for use in 1991 to 2001. In Mukundapur and Rambati village, both have high rated population growth, 2.5408 and 2.166. in Rambati village population growth is decreased for migrants, but, numbers of toilets are moderate. Finally, there was no progress for making own improved toilets before 2013 in Mukundapur village.

Fig-8: Relation between population growth and No of toilets, Source: Primary survey



VI. MAJOR FINDINGS

1. Problem as over population is creating a hazy life for the local people. Both population growth and sanitations are inter-related to each other. Over population is an issue for those households who have only one toilet for their use.
2. Unimproved sanitation creates a big problem to all the family members or, the local people. Those people who have pit latrines in the modern time, they deal with actual big problem.
3. The facilities which are got from government characterized by rural people's religion (Like- Hindu, Muslim etc.), caste (Like- GEN, OBC, SC and ST) and category (Like- APL, BPL). These are not always benefited to all the people.
4. The sanitation problem is also increasing day by day because of the pandemic situation of Covid19. Sharing of their toilets spread various types of viral diseases, diarrheal diseases, infections etc.
5. Government helps to make toilets for the households who have not their own toilets by taking 1/4th of money, but, this money is often problematic for some lower income group. And an often poor person does not get these facilities for some local political agents.
6. Solid Waste management is a big issue for polluting their environment. These wastes are generated beside roads, market area or, other places.
7. Another problem of this area is the toilets in schools are not much maintained and clean, so, often children or school girls neglect their school for going.
8. The open drainage system causes some mosquitoes born. In the season of monsoon, mosquitoes spread diseases.

VII. SUGGESTIONS

- Proper rural planning and development plans should be maintained in the right way.
- The local government should be well aware for the improvements at the infrastructure and the quality of the life in this pandemic situation.
- The quality of drinking water should improve.
- The rural people who live in this area have to concern about their own health by an improved sanitation system.
- Every houses and schools have to make proper toilet for using and clean it to avoid any viral diseases and other health problems.

VIII. CONCLUSION

Implementation of various plan and programmes are very important for development of rural area or any village. As besides, govt. should take necessary steps for being developed any area or, town or, a country. This case study on population growth and sanitation facilities explained that, how much development occurs in present days and in past decades what the scenario was of the development. The four villages that are Keutia, Abhirampur, Mukundapur and Rambati situated in Panpur-Keutia Gram Panchayat. These areas had not progressed as much as the other area, that's why, these are called as village. But after including and launching many plans and programmes, these areas will be progressed in one day. In this case study, this is stated that, the facilities which benefited people from the Local, State and Central Government, the Gram Panchayat and other offices. This is clearly explained that, those areas which were suffering from a bad sanitary system, how they get a safe sanitation system in a proper way to maintain in their daily life, a safe and healthy life. It is also explained that, how population increases or decreases for various reasons and how it affects on sanitation.

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